

REMARKS/ARGUMENTS

Reconsideration of this application in light of the above amendments and following comments is courteously solicited.

The invention as claimed in amended claim 1 is directed to a copper alloy consisting essentially of 58 to 62.8 wt% of copper, 0.3 to 0.5 wt% of tin, 0.01 to 0.5 wt% of silicon, at least one of 0.3 to 3.5 wt% of lead and 0.3 to 3.0 wt% of bismuth, at least one of 0.02 to 0.15 wt% of phosphorus, 0.02 to 3.0 wt% of nickel and 0.02 to 0.6 wt% of iron, the total amount of phosphorus, nickel and iron being in the range of from 0.02 to 3.0 wt%, and the balance being zinc and unavoidable impurities, wherein a proportion of an alpha phase is 90 vol% or more.

Such a copper alloy has an excellent corrosion cracking resistance and an excellent dezincing resistance while maintaining excellent characteristics of conventional brasses.

Thus, in a copper alloy as claimed in amended claim 1, the content of copper is 58 to 62.8 wt%, the content of tin is 0.□ to 0.5 wt%, and the proportion of the alpha phase is 90 vol% or more.

Therefore, copper alloys described in Examples 3-6, 13 and 14 of the specification are within the scope of the invention as claimed in amended claim 1, whereas copper alloys described in Examples 1, 2, 7-12 and 15-20 of the specification are beyond the scope thereof.

Claims 1 and 5 were rejected under 35 U.S.C. §112, first paragraph, as failing to comply with the written description requirement.

It is described on page 5, lines 35-37 of the specification that the amount of Sn is preferably in the range of from 0.1 to 0.8 wt%, more preferably in the range of from 0.3 to 0.5 wt%. It is also described on page 7, lines 7-9 of the specification

that the proportion of the alpha phase is preferably 80 vol% or more, and more preferably 90 vol% or more. Furthermore, all of the copper alloys described in Examples 3-6, 13 and 14 of the specification contain 58 to 62.8 wt% of copper. Furthermore, it is described on page 5, lines 26-28 of the specification that the amount of Cu is preferably in the range of from 58 to 66 wt%, more preferably in the range of from 60 to 62 wt%.

Therefore, amended claims 1 and 5 comply with the written description requirement.

Claims 1 and 5 were rejected under 35 U.S.C. §103 as being unpatentable over JP 60194035.

JP 60194035 discloses a copper alloy consisting essentially of 63.0 to 66.0% by weight of copper, 0.7 to 1.2% by weight of tin, 1.0 to 2.5% by weight of lead, 0.1 to 1.0% by weight of iron, 0.1 to 0.7% by weight of nickel, 0.01 to 0.1% by weight of antimony, 0.01 to 0.2% by weight of phosphorus, and the balance being zinc and unavoidable impurities, the alloy having alpha-phase structure.

However, JP 60194035 fails to disclose or suggest any copper alloy consisting essentially of 58 to 62.8 wt% of copper, 0.3 to 0.5 wt% of tin, 0.01 to 0.5 wt% of silicon, at least one of 0.3 to 3.5 wt% of lead and 0.3 to 3.0 wt% of bismuth, at least one of 0.02 to 0.15 wt% of phosphorus, 0.02 to 3.0 wt% of nickel and 0.02 to 0.6 wt% of iron, the total amount of phosphorus, nickel and iron being in the range of from 0.02 to 3.0 wt%, and the balance being zinc and unavoidable impurities, wherein a proportion of an alpha phase is 90 vol% or more.

JP 60194035 also fails to disclose or suggest that such a copper alloy has an excellent corrosion cracking resistance and an excellent dezincing resistance while maintaining excellent characteristics of conventional brasses.

In particular, JP 60194035 fails to disclose or suggest any

copper alloy containing 58 to 62.8 wt% of copper and 0.3 to 0.5 wt% of tin and having a proportion of alpha phase of 90 vol% or more, and also fails to disclose or suggest that the dezincing resistance and stress corrosion cracking resistance of a copper alloy containing 58 to 62.8 wt% of copper and 0.3 to 0.5 wt% of tin are excellent when the proportion of the alpha phase in the copper alloy is 90 vol% or more.

Accordingly, it is believed that the amended claims patentably distinguish the invention from the prior art.

An earnest and thorough attempt has been made by the undersigned to resolve the outstanding issues in this case and place same in condition for allowance. If the Examiner has any questions or feels that a telephone or personal interview would be helpful in resolving any outstanding issues which remain in this application after consideration of this amendment, the Examiner is courteously invited to telephone the undersigned and the same would be gratefully appreciated.

It is submitted that the claims as amended herein patentably define over the art relied on by the Examiner and early allowance of same is courteously solicited.

If any fees are required in connection with this case, it is respectfully requested that they be charged to Deposit Account No. 02-0184.

Respectfully submitted,

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